

METHOD OF FABRICATING A BURIED COLLAR

Abstract

A method of forming a buried collar on the sidewall of a trench in a semiconductor substrate including: (a) providing the trench in the semiconductor substrate, the trench having a first dielectric layer formed on a sidewall in a upper region of the trench and a conductive material filling a lower region of the trench, the conductive material covering a lower portion of the first dielectric layer; (b) removing the first dielectric layer not covered by the conductive material; (c) forming a second dielectric layer on the exposed sidewall of the upper region and on a top surface of the conductive material; (d) removing an uppermost portion of the second dielectric layer from the sidewall in the upper region; (e) forming a third dielectric layer on the exposed sidewall of the upper region; and (f) increasing the thickness of the second dielectric layer to form the buried collar.